EXHIBIT 10

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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GARY KOOPMANN, et al., :
Plaintiffs, :
v. : Civil Action No.
FIAT CHRYSLER AUTOMOBILES : 15-cv-07199-JMF
N.V., et al., :
Defendants.

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Videotaped Deposition of Paul Alan Gompers, Ph.D.
Boston, Massachusetts
March 5, 2018
12:01 p.m.

Job No.: 15576
Pages: 1 - 130
Reported By: Alan H. Brock, RDR, CRR

HUDSON REPORTING & VIDEO 1-800-310-1769

Videotaped deposition of Paul Alan Gompers, Ph.D., held at the offices of:

Cornerstone Research
699 Boylston Street
Boston, Massachusetts 02116

Pursuant to agreement, before Alan H. Brock, RDR, CRR, Notary Public in and for the Commonwealth of Massachusetts.

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I N D E X

EXAMINATIONS

EXHIBITS MARKED

March 5, 2018 12:01 p.m.

P R O C E E D I N G S

THE VIDEOGRAPHER: Good afternoon. We are on the record. This is the video operator speaking, Bob Giannini, with court reporter Alan Brock, with Hudson Court Reporting. Today's date is March 5th, 2018. The time is 12:01 p.m.

We are here at the offices of Cornerstone Research, located at 699 Boylston Street, Boston, Massachusetts, to take the videotaped deposition of Paul Gompers in the matter of Gary Koopmann et al. versus Fiat Chrysler et al., Civil Action No. 15-cv-7199-JMF.

Will counsel please state their appearance.

MR. WERNKE: Michael Wernke, of Pomerantz LLP, on behalf of the plaintiffs.

MR. STERN: Jonathan Stern, on behalf The Rosen Law Firm, on behalf of plaintiffs.

MR. LEVY: Josh Levy, Sullivan & Cromwell, for defendants and the witness.

MR. WERNKE: And will the court reporter please swear in the witness.

PAUL ALAN GOMPERS, PH.D.,

being first duly affirmed to testify to the truth,

the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MR. WERNKE:

Q. Good afternoon. I'm Michael Wernke. As we said, I represent the plaintiffs in this action.

Can you just state your name for the record.

A. Paul Alan Gompers.

Q. And you've had your deposition taken many times before; correct?

A. Yes.

Q. So we'll just go over a couple of basic ground rules. I'm sure you're already familiar with them. First of all, when answering, always try to answer verbally, like a yes or no, rather than shaking your head or nodding. Do you understand?

A. Yes.

Q. We'll try our best not to talk over each other. So please wait until I finish a question before you begin your answer, and likewise I will wait until you completely finish your answer before I begin the next question. And we can take a break whenever you want. All I ask is that we wait until you answer any pending questions. Make sense?

A. Makes sense to me.

Q. Do you understand that you're testifying under oath here today?

A. I do.

Q. Is there any reason that you can think of that you would not be able to testify truthfully and accurately today?

A. No.

Q. No medication that would impact that at all?

A. No.

Q. How many hours did you spend working on your report in this case, approximately?

A. Yeah, I haven't looked. 60 to 80-ish. That's probably about right.

Q. And did you work alone, or do you have like assistants that work with you?

A. I had a research team at Cornerstone support me on the matter.

Q. And do you know approximately how many hours they spent on the report?

A. No.

Q. I'm going to hand you what's being marked as Exhibit 1.

(Exhibit 1 marked for identification.)

Q. Do you recognize this document?

A. Yes, I do.

Q. And what is this document?

A. It's a copy of my expert report that I submitted in this matter.

Q. And in your report in one of the appendices I believe you identified your expert depositions and testimony in the prior four years -- Appendix B, I believe.

A. Yes.

Q. Just going through these, I want to get a general understanding of, for each one of these cases -- or I guess more accurately, can you identify each one of these either depositions or testimony that was for a securities case, identify whether you testified on behalf of the plaintiff or the defendant, and then also whether you gave an opinion on market efficiency, price impact, and whether the opposing parties' proposed damage methodology complies with Comcast. Do you understand what I mean when I say, first of all, complies with Comcast? Do you have a general understanding?

MR. LEVY: Objection.

A. My understanding as a financial economist

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is that what's necessary at the class certification stage is for the plaintiffs to articulate a damages model that can measure damages on a classwide basis consistent with the theory of liability and the alleged facts.
Q. And I'll go through these more specifically for each case. But I guess can you start off by going through and identifying the first action in which it was a securities case?
A. Yes. So as a general matter, I won't remember all of the nuances about whether or not it was a class cert, a loss causation, or damages report, and I won't always remember whether or not the issue dealt with market efficiency, price impact, or Comcast. I'll do it to the best of my recollection, but for most of these, I haven't reviewed the testimony in quite some time, so especially the ones in the past I won't remember.
And the second thing is that for all these matters I've been -- I've offered testimony on behalf of the defendants, but that's only because I've never been asked by the plaintiff to represent. I have no issues representing a plaintiff, but I've never been asked in these matters.
Q. Okay, fair enough. So if you can just go

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down, and we'll hit each one to the best that you can remember.
A. So the first one on Page 1 of Exhibit -- Appendix B would be the Groupon securities litigation.
Q. And do you recall in Groupon if you gave an opinion on market efficiency?
A. So, yes, I was brought in as a rebuttal expert in that matter, and I believe that the main focus of my report in that matter was on market efficiency for Groupon, which was a newly public IPO. So the class period, I believe, started at or right after the IPO.
Q. Okay. Do you recall, did you give any opinion regarding price impact?
A. I don't recall.
Q. And do you recall whether you gave an opinion as to whether or not the proposed damage methodology complies with Comcast?
A. Again, I don't recall.
Q. The next one down.
A. It would be Kinross Gold, which is two below that.
Q. And did you give an opinion on market efficiency?

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A. The exact subject matter of the Kinross Gold, again, I don't recall. I just haven't reviewed it.
Q. The next one down that's a securities case.
A. So that would be the Barclays case in the middle of Page 2.
Q. The Carpenters v. Barclays?
A. That's correct.
Q. And do you recall, did you give a market efficiency opinion?
A. You know, again, I don't want to speculate. Again, I haven't reviewed Barclays, so I don't recall exactly. I'm pretty sure it was at the class certification stage, but I haven't reviewed it, so I don't recall exactly what was in the Barclays report.
Q. And so you don't recall whether you gave a price impact or a Comcast opinion?
A. That's correct.
Q. Next one down.
A. Goldman Sachs, and in the Goldman Sachs, again, I don't recall whether there was market efficiency arguments. There was certainly price impact arguments in Goldman Sachs. And I don't recall if there were Comcast issues.

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Q. And the next one down.
A. MiMedx. I think there were market efficiency arguments. I don't know about price impact or Comcast.
Q. Okay.
A. And then Barclays is the same as was above, as was Goldman Sachs.
Intercept Pharmaceuticals, which would be the one at the top of Page 3. Again, I haven't reviewed that recently. I don't recall. I'm pretty sure that was at the class certification stage. I don't recall if it was just market efficiency or if there were other issues as well.
Q. You recall there was market efficiency?
A. Yeah, I'm pretty sure that in Intercept we discussed the issues in market efficiency.
NII Holdings, which is the one right below that -- there were market efficiency arguments in the NII Holdings case. I don't recall whether or not there were additional class certification issues in NII.
St. Jude Medical: Again, I'm just trying to remember what was in the St. Jude Medical report. There were certainly market efficiency arguments. I don't remember if there were Comcast

arguments or price impact arguments as well.
In Petrobras, right below that, there were a variety of securities, both the equity and a variety of debt issues. And certainly for the bonds there was -- the major arguments about the bonds were issues of market efficiency. In Petrobras as well there was a discussion of what the appropriate test was for market efficiency. I don't recall if there were price impact or Comcast issues.
Then we can go two more down, Montage securities litigation. I don't know if there were -- I can't remember if there were market efficiency arguments. I don't remember the exact -- the exact arguments made in the Montage report.
In sort of the Symbol Technologies -- that's the next one here -- again, I just haven't read the Symbol Technologies report, wouldn't remember.
For Amgen, it wasn't -- I don't believe there were market efficiency arguments in Amgen. There may have been price impact, but again, I don't recall without having reviewed it, you know, in the last couple of years.
Comverge would have included market efficiency. Oh, no, Comverge is actually an

appraisal action in Delaware, so that's....
So now we're down to Big Lots on Page 4. Big Lots did include Comcast arguments. I think that was the primary issue in the Big Lots report, were damages.
So there's AAC Holdings down about two thirds of the way, Kasper versus AAC Holdings, and there were both price impact and Comcast arguments in the AAC Holdings.
In the sort of Facebook securities matter there were issues of price impact, and I don't recall if we talked about Comcast or not in the Facebook matter.
In the Green Mountain Coffee I believe that we talked at least in rebuttal about the appropriate way to test market efficiency and Comcast issues.
Freddie Mac, to the best of my recollection, we talked about primarily on sort of price impact as well as Comcast issues.
So that would be the last of the securities matters.
Q. Now, in this case, in your report in this case, are you providing any opinions on whether or not the market for Fiat Chrysler stock was

efficient?
A. I haven't been asked to address the issue of market efficiency.
Q. Are you providing any opinions on whether or not the alleged misleading statements had a price impact on Fiat Chrysler stock?
A. I haven't been asked to offer price impact opinions.
Q. And so just for the sake of clarity, you also have not been asked to provide an opinion on whether or not the alleged corrective events had an impact on Fiat Chrysler stock.
A. That's correct. I haven't been asked to offer an opinion on price impact.
Q. Do you know why you weren't asked to provide an opinion on price impact?
MR. LEVY: Objection.
A. I don't know. That, I would assume, is a legal matter for counsel, in terms of what they wanted me to address. But I was asked to look specifically at the sort of price reaction on a set of days at the beginning of my report, both the alleged misstatement and omission days, and there were seven additional days that the complaint talks about that I looked at. And then I was asked to

address the issues of whether or not Dr. Nye had -- had proposed a methodology to address damages on a classwide basis.
And so those were the two things that I was specifically asked to look at, and I wasn't asked to look at price impact, nor do I know why.
Q. So let's take a look at Paragraph 4 of Exhibit 1, your report. Now, in Paragraph 4 you state, "Counsel asked me to evaluate whether Dr. Nye provides sufficient evidence to demonstrate that he could develop a case-wide damages model consistent with Plaintiffs' theory of liability, and to evaluate Dr. Nye's regression results on certain dates in the Fourth Amended Complaint." Do you see that?
A. Yes. I believe you misread "class-wide." You said "case-wide." But it's "class-wide." But other than correcting "case" to read "class-wide," you read that correctly.
Q. And you mentioned earlier, as we were just discussing about what you were and weren't asked to provide opinions on, where you state here that you were asked to evaluate Dr. Nye's regression results on certain dates in the fourth amended complaint, what do you mean by "evaluate"? What were you asked

to evaluate?
A. I was asked to look at the alleged misstatement dates and to assess whether or not allegedly misstated information was associated with statistically significant stock price increases and then to look at the seven additional dates which Dr. Nye didn't look at, which are part of the fourth amended complaint about, I believe it's under this section, the truth about Fiat Chrysler begins to be known or something like that. There's seven additional dates that Dr. Nye did not look at, and I just take from his regression model what are the residual returns on those additional dates.
Q. So starting with the alleged misstatement dates -- and you stated you were asked to assess whether or not the allegedly misstated information was associated with a statistically significant stock price increase. What did you do to perform your analysis?
MR. LEVY: Objection.
A. So I looked at Dr. Nye's regression results and took the residual returns that Dr. Nye calculates on those days, and that's where I have the discussion of the number of, I think it was like two or three negative and statistically significant

dates. There were a number of other negative but not statistically significant; but it ends up that in those 24 dates something like five of them are positive and statistically significant. And then I do an analysis of those five days to understand if what is moving the stock price up is the information which is allegedly misstated.
Q. So you don't do your own regression here.
A. I have not done my own regression.
MR. LEVY: Objection.
Q. Or your own event study; correct?
MR. LEVY: Same objection.
A. So there's actually two steps to an event study. So part of an event study is doing a regression analysis to identify the firm-specific component of a daily stock return.
The second component of an event study is looking at particular dates and trying to assess what's moving the stock price on a given set of dates. And so while I don't do my own regression, the analysis of the particular dates I look at is essentially that step of an event study.
Q. Okay, but an event study entails both portions; correct? The regression as well as this additional analysis?

A. Yes, it's both steps. And what I've done -- for my analysis of those dates, I just take the residual returns from Dr. Nye's model. I'm not saying that it's the model I would choose or that it's an appropriate model -- but take his regression model and look at the residual returns on those particular dates. And so I just adopt that model of residual returns when I discuss the particular events that I look at.
Q. If you could turn to Paragraph 12, Page 4. And the first sentence states, "Exhibit 1 summarizes Dr. Nye's regression results for Fiat's stock price returns following 24 of the 26 alleged misstatements in the Class Period." Do you see that?
A. Yes.
Q. So if we look back to Exhibit 1, Exhibit 1 just contains information from Dr. Nye's analysis; correct?
MR. LEVY: Objection.
A. So what Exhibit 1 has are the residual return from Dr. Nye's regression results, but this tabulation, and putting them together as these 24 alleged misstatement dates, is my own grouping of these dates.
So the Columns 4 and 5 come directly

from Dr. Nye's regression results, and then the tabulation -- because what I was asked to look at is whether or not there was evidence on these misstatement dates that the information that was allegedly misstated caused a statistically significant stock price increase.
And so that's the purpose of this analysis. And all I've done here, rather than doing my own regression results, is to utilize the residual returns from Dr. Nye's regression.
Q. But am I correct that all the information in Exhibit 1 is information taken from Dr. Nye's report?
MR. LEVY: Objection, asked and answered.
A. So what I've taken is Dr. Nye -- Dr. Nye tabulates the headlines, but I've actually reviewed all of this material, because when we go down to the -- when we go down to the five dates that have statistically significant stock price increases, the question on those five days is whether or not the information which is allegedly misstated is what caused the stock price to go up on those days.
And so yes, Dr. Nye in his integrated chronology tabulates headlines on various days, but

do statistical significance is to think about the distribution of the variable we're testing -- residual returns. We typically assume normality. And then this just tells us where we fall in that distribution of normality.
Q. I'm trying to put this a little bit back into the securities context. So if you have a P value of 5 percent -- let's take a step back.
Is it okay if I say a P value of 5 percent, that's equivalent to a P value of .05, terminology-wise?
A. I can go with that.
Q. I want to try to get this right. So if I have a P value of 5 percent, that tells us that there is a 5 percent chance that a residual return of that size or larger would occur as a result of random volatility.
A. Correct.
Q. And the confidence level in that situation would be 95 percent.
A. That's correct.
Q. And similarly, if we had a P value of 20 percent, that tells us that there's a 20 percent chance that a residual return of that size or larger would occur as a result of random volatility.

A. That's correct, but we would not call that statistically significant -- that there are standards to scientific inquiry within financial economics in which the professional standard is 95 percent.
Q. I'm not getting to statistical significance now. I know at some point a researcher chooses what level they want their statistical significance to be for a test; correct?
A. Well, it's the profession. I mean, there's a history behind this. So as statistics sort of became -- permeated scientific research, the question was what is the level of confidence, what is the P value that we want to associate with a result that we believe -- that we believe, and therefore, in order to say that a given result is statistically significant, what level do we need. And within the scientific professions, within social science, within economics, that level is 95 percent.
And so when an economist speaks of statistical significance, it's generally the case that they mean 95 percent. And as I said, I'm unaware of academic research which is published where things -- where the results are only significant at a 90 percent or a P value of .10.

So that's what I'm trying to say. It's all about what does our profession say we can call statistically significant.
Q. So, you know, we'll get into statistical significance in a little bit. But my question didn't have anything to do with statistical significance. So I'll go back.
We had said that a P value of 5 percent tells you that there is a 5 percent chance that a residual return of that size or larger would occur as a result of random volatility; correct?
A. Yes.
Q. The confidence level in that situation would be 95 percent.
A. Correct.
Q. And a P value of 20 percent would tell us that there's only a 20 percent chance that a residual return of that size or larger would occur simply as a result of random volatility; correct?
A. That's correct.
Q. And the confidence level in that situation would be 80 percent.
A. Correct.
Q. Now, as to statistical significance, in academic research what's your understanding of what

statistical significance means? What's the standard? And I'm not referring to a percentage. What does it mean for something to be statistically significant?
A. If we want to be metaphysical for a second, if you're an empirical financial economist, you're looking to find results that the profession has a comfort level in believing, and so what's the level of analysis in terms of statistical significance, in terms of a confidence level that provides us a comfort that the evidence that we're bringing forward is, quote, "real."
And the statistical literature going all the way back to the earlier part of the 20th century had a debate about this level. So there was a metaphysical debate about, in order to give us confidence that the results we're finding are actually real, what level of confidence do we need to be able to believe those results? And that's how we got to this -- the sort of threshold in the literature being 95 percent, that this 95 percent is what's necessary as a profession to believe the results that we're actually finding.
Q. Now, we were talking a moment ago about the P values. Now, a P value, it doesn't give -- it

doesn't give the chance or the probability that the null hypothesis is true; correct?
A. That's correct. The way to think about a P value: All a P value is is, again, back to sort of the distribution of a variable. And a P value of .05 says you're at that sort of -- of .05, only 5 percent of the observations will have a value of that variable above that cutoff. So that's what, essentially what a P value is telling you, which is if we have a bell-shaped distribution, if we're doing a two-sided test, that sort of says you have 2 1/2 percent in each of those tails, which is, you know, above that threshold -- only 2 1/2 percent of the observations above that threshold in each direction are above that cutoff.
Q. At the P value now let's introduce the idea of statistical significance, not just a P value. So if we say statistical significance to a 95 percent confidence level, if you get a return -- a residual return and the P value is higher than 5 percent, so the confidence -- sorry, let's strike that, start over.
If you do your analysis and you find the residual return is lower than a 5 percent P value, so the confidence level is higher than 95 percent,

in that situation the researcher might then say, "We can reject the null hypothesis." Correct?
A. That's correct, because the typical -- the level -- I mean, this was the whole metaphysical discussion we had just a second ago, which is what level do we feel comfortable saying that our results are real. And that's where we come to this sort of P value of .05 or a confidence level of 95 percent in order for us to say it's statistically significant.
Q. So in the securities case a residual movement with a P value lower than 5 percent, so a confidence value of higher than 95 percent, the researcher might then conclude he can reject the null hypothesis and say that this residual return is a result of the event in question.
A. That's correct.
Q. But conversely, if you do your analysis and you get a residual return where the P value is higher than 5 percent, so the confidence level is below 95 percent, one then cannot conclude as a result of that that the null hypothesis is true, meaning that the event in question did not have a price impact.
MR. LEVY: Objection.

A. So within the academic literature what we would say is we cannot reject the null hypothesis. So in the former case that you were talking about in which the P value is less than .05, we would reject the null hypothesis. So we would reject the null hypothesis that the stock price movement was not different from zero.
If the P value is higher than .05, then the way we would say it in statistical terms is that we cannot reject the null hypothesis.
Q. So in that situation it would be inappropriate for the researcher to accept the null hypothesis.
A. That's just not --
MR. LEVY: Objection.
A. That's not the way we do statistical tests. We set up a null hypothesis, and we either accept the null hypothesis or we cannot reject the null hypothesis.
Q. So in the instance -- so that's why I'm asking: So in the instance where somebody did an event study looking at residual returns and the P value is larger than 5 percent -- let's say it's 15 percent -- and so the confidence level is 85 percent, in that situation it would be improper for

the researcher to then conclude "We can accept the null hypothesis."
MR. LEVY: Objection.
A. Let's be precise. What you would say is that that stock price movement was not statistically significantly different from zero, or we cannot reject the null hypothesis that the stock price movement is, you know, zero.
Q. So if you're reviewing a paper with those specifications and their conclusion was, "Therefore, as a result of a residual movement of 85 percent, we can accept the null hypothesis and that this event did not impact the price"; that would be an inappropriate conclusion?
A. No. When you read academic papers -- so the statistical inference itself is exactly what we said, which is that we cannot reject the null hypothesis.
But when you discuss your results and in discussing the results it would certainly be the case that a researcher would say there is no effect or we don't identify any effect: I'm totally comfortable with that because of the way you've designed the null hypothesis. So if you don't reject the null hypothesis, then essentially you're

saying the null hypothesis is true from a statistical perspective. You're not rejecting it. So your results -- and in the discussion of the results you would say we find no evidence of an effect or there is no effect. People would write that in an academic paper.

Q. So it's your understanding as an expert that if one -- if someone says you don't reject the null hypothesis, then you're saying the null hypothesis is true?

MR. LEVY: Objection.

A. No. What I'm saying is, in terms of the way a financial economist discusses it when they write their paper, you're very precise in the way you discuss it, and you say we don't reject the null hypothesis. But when you're discussing the sort of real-world implications of that, it is the case that somebody would say we identify no discernible effect of X and therefore, you know, diversity doesn't affect performance or something doesn't affect performance. People would write that in their papers.

Q. Is that appropriate? Is that an appropriate conclusion to conclude that therefore the null hypothesis is true?

MR. LEVY: Let Dr. Gompers finish his answer.

A. It is certainly appropriate to write it in that way as long as you've been clear as to what the results of your null hypothesis is.

Q. Let's try it another way. What's a situation -- we can use an event study, a statistical analysis, or securities cases. Give me a situation in which someone could set up an event study, looking at residual returns and confidence levels, such that they could affirmatively conclude that the null hypothesis is true?

MR. LEVY: Objection, calls for speculation.

A. Remember what you're trying to do here in an event study for securities litigation, is essentially you're trying to do a number of things. One of the things you're trying to do is to assess whether or not the information that you believe was misstated, was fraudulently conveyed to the market, whether or not you can be sure that that information adversely affected investors.

In order to conclude that, you set up your null hypothesis that the price reaction -- was the price reaction different from zero. And so in

this particular context, in order to be confident that we're identifying something which was caused by the fraudulent information, we're requiring statistical significance in the context of was it different from zero.

And therefore, in this particular context, if it's not statistically different -- if it's not statistically significantly different from zero, then you could not assign causality to the misstated or omitted information.

And that's the way we design the test. We design a null hypothesis to answer a particular question that we're looking at.

Q. So an event study can't answer the question affirmatively whether the event had no impact on the price.

A. The way we discuss it in terms of statistics, you would say that "I can't reject the null hypothesis." And certainly in the academic literature, when you discuss the results, people will write that "We do not identify effect, and therefore we don't -- there is no effect." They will write the papers in that way.

But in a statistical sense, the way we approach a particular matter is really important in

terms of the way we design the null hypothesis. And in this particular case, if we're talking about specifically for a securities litigation matter, what are we trying to test? We're trying to test whether or not fraudulently conveyed information harmed investors, and therefore we're testing whether or not we can say that the price movement is different from zero.

And therefore, if you cannot reject the null hypothesis, you can't ascribe the price movement to the misstated information.

Q. If you were going to try to prove no price impact, affirmatively try to prove no price impact, how would you set up that study?

MR. LEVY: Objection.

A. It would depend upon the circumstances. I've done price impact analysis in a variety of ways. And so it would depend upon the facts of the particular matter at hand.

Q. What would the null -- what would the hypothesis be? Would you still have a null hypothesis or some type of hypothesis?

MR. LEVY: Objection.

A. Again, it would depend upon the facts of the particular matter.

only event study analysis, I would conclude that in both of those circumstances the stock price movement is not statistically significant.
Q. And you're not capable of making a determination on your expertise as to whether or not either of those pieces of information -- whether it's more likely or not that it had moved the stock price?
MR. LEVY: Objection.
A. I'm going to try to be as clear as possible. If the evidence that I'm bringing to bear is an event study analysis, then in an event study analysis I would treat those two days exactly the same and would conclude that they're not statistically significant.
Q. So if you were charged, though, with determining whether it was more likely than not, would you do something other than an events study analysis?
A. It would depend upon the information available and the circumstances. So there may be circumstances that I would look at additional information, but what I'm telling you is that from an event study standpoint those two days are treated exactly the same.

Q. Give me some examples of something you might do if you were charged with determining whether or not it was more likely than not that information moved the stock price.
MR. LEVY: Objection.
A. I'll give the exact same example of a pharmaceutical company, which is, given a piece of information, knowing that the value changes with changes in future cash flows or future systematic risk, can I glean market evidence that those things changed in response to the piece of information that I'm examining?
Q. If there's a residual stock price movement and the confidence level is, say, 92 percent -- you do one analysis and the confidence level is 92 percent, and take another scenario, the same information and everything, but you did the analysis and the confidence level is 85 percent. Is it more likely in the first scenario that the information moved the stock price? We're talking probabilities; correct?
A. But remember, what we're talking about is the P value looks at sort of Type 1 error or the probability at which we can reject the null hypothesis. And so in one case it's .15 and in the

other case it's .08. Those are the P values related to that distribution and in a statistical test can we reject the null hypothesis? And those just tell you the level at which we can reject the null hypothesis.
Q. I understand all that. And to me what that sounds like is that between those two scenarios -- the 92 percent confidence level and an 85 percent confidence level -- that you have greater confidence that the information moved the stock price under the 92 percent confidence level than you do under an 85 percent confidence level. Is that accurate?
A. The P value is lower, meaning that you're closer to rejecting the null hypothesis, but you don't reject the null hypothesis. You would not say that either day is statistically significant. The P value speaks for itself. The P value relates to the probability that you're going to reject the null hypothesis. In the one case it's .08. In the other case it's .15.
Q. So even if something isn't above the 95 percent confidence level -- say it's 94 percent confidence level -- that's still relevant information to assess and to consider.
A. I don't know what you mean by relevant for

whom. The question is the standards of financial economics in terms of the way we think about research which is of the level that is peer-reviewed.
We would not call that statistically significant. Whether or not there's other circumstances in which that conclusion is useful and informative, it would depend upon the context, and I can't opine on that. I'm opining as a financial economist.
And what I can tell you is if it's .08 -- a P value of .08 or a P value of .15, in neither instance would you call that statistically significant in the financial economics peer-reviewed literature.
Q. But nothing magical happens at 95 percent confidence level. It's not like zero degrees water freezing or, you know, something like that?
MR. LEVY: Objection.
A. It's a standard within the profession, and the P values speak for themselves.
Q. So the P values speak for themselves. There's a, as you put it, a standard in the industry or in academics that you say is at 95 percent confidence level. But other than, I guess, the

mathematical or linear difference between 95 percent confidence and 94.999 percent confidence, there's no other distinction, other than just the simple mathematics of probabilities?

MR. LEVY: Objection.

A. So P values run on a continuum. They're a continuous variable. There are standards by which the profession operates and when one offers conclusions based on large-sample statistical analyses. In that case we say something is statistically significant when it has a P value of .05 or smaller.

But it is factually correct that the P value is a continuous variable that runs all the way from .00000 all the way to 1.00.

Q. Looking at Exhibit 1, your report, on Page 14 -- and we may have discussed this a tiny bit -- you state, "The 95 percent confidence level is typically used to perform this statistical test." And then you say, "For example, the Reference Manual on Scientific Evidence indicates that 'in practice, statistical analysts typically use levels of 5 percent or 1 percent. The 5 percent level is the most common in social science, and an analyst who speaks of significant results without specifying the

threshold probably is using this figure.'" Do you see that?

A. Yes.

Q. And you reference the Manual on Scientific Evidence.

A. Which is what we looked at earlier.

Q. I believe that's Exhibit 3.

A. Yes.

Q. And can you turn to Page 245 in Exhibit 3, the reference manual. At the bottom of Page 245, in the second sentence of the bottom paragraph, it states, quote, "The 95 percent confidence level is the most popular, but some authors use 99 percent, and 90 percent is seen on occasion," end quote. Do you see that?

A. Yes.

Q. Do you agree with it?

A. I agree in the context that I sometimes see 90 percent, but I've not seen financial economics peer-reviewed papers published when the significant results that you're looking at are only significant at 90 percent. I don't know of a single paper that's been published where all of the statistical tests are at the 90 percent level.

So I think this is what we had talked

about earlier, where it's often the case where you might have one star, two stars, and three stars for 90 percent, 95 percent, and 99 percent. The question is what is the level that is typical -- what is the level that in fact as an editor or referee that I would require the results be significant at, and that would be the 95 percent level.

Q. And the 95 percent confidence level, it doesn't line up with any particular burden of proof in a litigation.

MR. LEVY: Objection, calls for a legal conclusion.

A. Yeah, I think I was just going -- I don't know as a matter of law, and I'm not offered as a legal expert, I'm offered as a financial economist. And so I'm employing the standards of my profession. And when I do my own work or if I'm reviewing another financial economist's work, I evaluate that in the context of the profession, not the law.

Q. But in your profession -- and I understand you're not here to give any kind of legal opinion. But in your profession, in your knowledge of, you know, where the 95 percent confidence level came from and why it's used, you're not aware of it being

used because it meets any type of -- it coincides with any kind of legal burden?

MR. LEVY: Same objection.

A. Again, I have no way to offer opinion one way or the other on sort of the legal standard for --

Q. But you're not aware of anything in the literature in statistics, in your area of expertise, that ties these two things together, that says, "This is why we use a 95 percent confidence level"?

MR. LEVY: Same objection.

A. I've seen nothing that speaks to that issue.

Q. And you were talking about the 95 percent level, that you said that usually that's the typical confidence level used in peer-reviewed research. Is a 95 percent confidence -- is it your opinion that a 95 percent confidence level equates to it's more likely than not?

MR. LEVY: Objection.

A. It's interesting that -- and I can't remember what statistician talked about this. But there was discussion in the early part of the 20th century, and I actually at one point did some digging to try to see this, and I just can't

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remember the statistician's name.
But it gets back to the sort of 1 in 20 that we talked about earlier being sort of a reasonable basis to make and offer kind of conclusions about causality.
The standards have been set in the profession primarily since the early 20th century, and that is the standards which are employed.
Q. You're not talking about Ronald Fisher, are you?
A. I don't think it was Ronald Fisher, but I'd have to go back and check. But there's sort of -- at some point I had read a discussion by early statisticians about how the 95 percent confidence interval sort of became the standard.
Q. But you're not aware that it became the standard because that's the level where someone can say, "It's more likely than not"?
MR. LEVY: Objection.
A. As I said, it sort of developed based on early discussions amongst statisticians in the first part of the 20th century, and it's just what's accepted as a matter of sort of the profession.
Q. Is it the result where researchers generally conclude that these results are pretty

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rare?
MR. LEVY: Objection.
A. That's not the way it's typically framed. It's whether or not you can reasonably conclude that the effect you're finding is real. So think about trying to analyze a particular relationship and the question is is the relationship between these two things real or not.
And the way I think about it is that when something is statistically significant at, you know, a P value of .05, I can be reasonably confident that that's something that's real.
Q. So if someone is trying -- a researcher is trying to establish some kind of scientific fact, the 95 percent confidence level is the point where they can say, "This experiment establishes that fact."
A. Correct.
Q. If you were charged with determining statistical significance to equate to different levels of burden of proof -- let's take a step back, and I'm not going to ask you for a legal opinion; don't worry.
In the law there's generally three popular levels of burdens of proof, which you may be

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aware of even though you're not a legal expert. There's the beyond all reasonable doubt in a criminal case, if you're going to throw someone in jail. There's a little bit lower standard that you see in civil cases, by clear and convincing evidence. And then there's another standard, mostly in civil litigation, that's by the preponderance of the evidence, sort of a more-likely-than-not-ish standard. Have you heard very generally speaking of those three levels?
A. So having watched enough, you know, Law and Order, I am certainly aware of those terms. What they mean and how they might in some legal interpretation translate into statistics, I have no way of knowing and no way of translating them.
So I'm certainly aware of those terms, but I couldn't offer any opinion about what that actually would mean in terms of statistical tests.
Q. And I'm not going to ask you to ascribe a confidence level to any of those. What I am wondering is, if it makes sense -- and if it doesn't, let me know -- if you were to ascribe statistical -- start over. If you were to ascribe confidence levels to those burdens of proof, would it make sense to ascribe a higher confidence level

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for determining beyond all reasonable doubt than to clear and convincing evidence and preponderance of the evidence?
MR. LEVY: Objection.
Q. Would the order still exist?
A. I understand that there seems to be an order, but I can't offer an opinion on that. I'm a financial economist, and like I said, I can offer an opinion based on having watched law and Order, but I'm not sure that I'm the type of person who should be offering the Court an opinion about how that should translate into what I do as a financial economist.
So I understand that something is meant about sort of relative order, but how that translates, I just can't offer an opinion.
Q. So you don't have -- you're not able to say whether or not it would make sense, as a statistician, to require a higher level of confidence for a beyond-all-reasonable-doubt standard versus a more-likely-than-not standard. You can't say whether or not you'd use the same confidence level or a different confidence level.
MR. LEVY: Same objection.
A. So I understand that there's some implied

ranking to those. How those might translate into what a Court would interpret from an evidentiary perspective I can't say. It certainly would not necessarily change my analysis in terms of what I say as a financial economist, because that's rooted in my profession. And I think it's up to the judges and juries to determine how that translates based on the evidence that's provided to them.
And so certainly I understand a connotation of some ranking, but beyond that, I just can't say anything else.
Q. So if somebody asked you to prove -- to do an analysis and they say, "Dr. Gompers, we need to be certain" -- forget about litigation for now. Someone comes to you and says, "We want you to do an analysis using an event study, and we need to be absolutely certain. To publish these results, there can be no doubt, no doubt, it's too important." Would you say, "I recommend using the same confidence level cutoff" as if they said, "We want you to do this analysis, and we just want to be, you know, more likely than not. It doesn't have to be perfect. We don't have to be absolutely certain. We just want to be confident that we're going in the right direction. We have to choose one or the

other. We can't sit on the sidelines here. We have to go one way or the other." Would you choose the same confidence level for those two analyses?
MR. LEVY: Objection.
A. So if I were planning to publish a paper, I would use the same confidence level. In either of those circumstances I would let the data speak and tell them what the data said, but I would still use the same level of statistical significance. I would say, "These are statistically significant, you know, have a P value of .05 or statistically significant and have a P value of .02" or whatever it is, I would still use the same language and let the person on the other side decide.
But if I'm publishing, it's the same sets of standards.
Q. So you'd run your analysis, report the P values and the confidence level, to say, "Hey, you guys have your criteria. It's in your hands now. I'm just telling you what the results are."
A. And I would only call something statistically significant if it was below a P value of .05.
Q. Okay.
MR. WERNKE: It might make sense to take

a short break. I think we've been going about an hour.
THE VIDEOGRAPHER: The time is 2:28. We are off the record.
(Recess taken.)
THE VIDEOGRAPHER: The time is 2:41. We are back on the record.
Q. Are you familiar with the phrase "price maintenance theory"?
A. Yes.
Q. And what's your understanding of what a price maintenance theory is?
A. So as I understand it from a matter of financial economics -- not the law, theory of the case -- it's my understanding that a price maintenance theory is one in which the plaintiffs allege that the misstated or omitted information -- put it another way -- that had the company said the truth, the stock price would have fallen but by misstating or omitting the information the stock price stayed at the level that it was, essentially.
Q. So the allegation is that there's inflation in the stock price, inflation is introduced, but not as a result of a price increase at the point in time of the statement, the alleged false statement.

MR. LEVY: Objection.
A. It's my understanding that sort of a plain vanilla maintenance case would be that the but-for disclosure would have caused the stock price to decline but because the but-for disclosure wasn't made, the stock price stayed where it was.
Q. Now, what's your understanding of plaintiffs' theory of liability in this case?
A. So -- you're asking me to render a legal opinion. Certainly Dr. Nye stated in his testimony that he believed that this was a price maintenance case, and I believe that I have a paragraph in my report where I talk about the testimony that Dr. Nye -- that Dr. Nye made at his deposition about just that.
Again, I'm not a lawyer, so I can't opine. But as I read the complaint, I can't tell from the complaint as a financial economist whether or not the theory of liability is price maintenance or not. I understand that's what Dr. Nye says, but again, I don't have an opinion one way or the other.
Q. But is your understanding -- maybe it's a little bit different question. Is it your understanding that plaintiffs allege that Fiat Chrysler's stock price was inflated during the class

period as a result of misstatements concerning their compliance with certain regulations and laws?

MR. LEVY: Objection, calls for a legal conclusion.

A. So it's my understanding that the claims relate to issues around notifications of safety and recall issues as well as allegations around emissions testing and whether or not there was software that allowed Fiat Chrysler to evade or cheat on its emissions tests.

So that's my understanding of sort of the broad allegations in the case. But what I'm saying is, I'm not a lawyer, but as I read the complaint, I can't tell whether or not the allegations are one of price maintenance or inflation caused by what they were saying. I do understand from reading Dr. Nye's testimony that it's his view that the plaintiff theory is one of price maintenance.

Q. Now, under a price maintenance theory, should one expect significant price changes on dates of misrepresentations concerning the omitted material facts or statements that confirm prior market expectations?

A. So if the information that either comes --

so if no information comes to the market, then expectations shouldn't change, and therefore there should be no stock price change.

If the information which comes to the market is consistent with prior expectations, so that expectations don't change, then once again we wouldn't expect the stock price to change in either of those two circumstances.

Q. And under a price maintenance theory, inflation can still be introduced into the stock price during one of those scenarios, either where no statement is made or a statement confirms prior expectations.

A. That's correct. If the expert can show that the information which was known or knowable to the defendant, if it were disclosed in some but-for disclosure, would have caused the stock price to decline in response to that but-for disclosure. And so that's -- so what you would need to show is that the information which was omitted or misstated, once that was corrected in a but-for disclosure, the price should have fallen in response to that information.

Q. And when would the first day be that inflation be introduced into a stock price in a

price maintenance theory?

MR. LEVY: Objection, foundation.

A. Now you're sort of touching on some of the issues related to some of my opinions related to the damages question at the end of my report.

So when information -- you have to assess when particular pieces of information are either misstated or omitted. When did the company know or reasonably should have known this information? So we look on a particular date, and what is it that was known or knowable on that date related to the allegations about misstatements and omissions; and then we need to assess, if that information was part of a but-for disclosure on that date, how would that have affected the stock price?

And so it relates to when a piece of information was known or knowable.

Q. So in the case plaintiffs are alleging that Fiat Chrysler made misrepresentations concerning, you know, omitted material facts at the beginning of the class period, then the price inflation would begin on the first day of the class period under that theory.

A. Well, not necessarily. And so one of the things that I've discussed in my report is that

specific pieces of what is allegedly omitted or misstated only became known to Fiat Chrysler after the beginning of the class period. So that information -- let's assume for a second that that information was related to inflation. That inflation could not have come into the stock price because that piece of information was not known or knowable at the beginning of the class period.

So it depends upon when that information is available to the company.

Q. But if there is information that was available to the company on the first day of the class period during when the alleged misrepresentation was made, then that would be the day that that -- at least that portion of inflation would come into the stock price.

A. Let me try to be precise. On a given day in which a piece of information became known or was on that particular date knowable -- let's say February 17th, 2010 -- if something became knowable -- was known or was knowable to the company for the first time on that date and that information you can show was associated with a particular value implication, then it's my understanding that that is the date on which inflation enters into the

company's price.
Q. And it's your understanding that in this case, like any securities case, that ultimately it's going to be up to the judge or the jury to determine when the first false statement was made?
MR. LEVY: Objection.
A. It is certainly up to the judge and jury to decide as a matter of law. A financial economist can certainly provide analysis and opinion which are helpful to the judge and jury to determine matters of law. And in particular as it would relate to something like when inflation entered into a stock price, I think it's useful for a financial economist to discuss that information which was not known or knowable at the beginning of the class period cannot be associated with inflation at the beginning of the class period.
Q. In Exhibit 1, your report, on Paragraph 25, you have a Footnote 48, and you refer to the case Comcast Corp. v. Behrend.
A. Yes.
Q. So why is it you cite to Comcast here?
A. So it's my understanding, and has been related to me by a variety of attorneys, that this forms a basis for why it's necessary for plaintiffs

to establish that they can develop a damages model at the class certification stage that is capable of measuring damages on a classwide basis.
And so I'm not offering a legal opinion on Comcast, and I'm not offering a legal opinion about what Comcast requires. But it has been conveyed to me that Comcast sets that out as a standard of class certification for plaintiffs.
Q. And have you read the Comcast case?
A. I have at different points in time. Again, I'm not -- I'm not an attorney or judge, so I can't offer a legal opinion. But I have on a number of occasions read the Comcast decision.
Q. And you understand that the Comcast decision involves multiple theories of liability? Do you recall that or no?
MR. LEVY: Objection.
A. You'd have to put it back in front of me. I've certainly read it. I didn't go to law school, so I'm not going to, you know -- I can't offer any sort of opinion on it. But as I said, I'm very explicit about the way I write Paragraph 25, which is that this is my understanding, this is what's been related to me by attorneys about what Comcast requires at this point. I'm offering no opinion

about what Comcast requires.
Q. I understand. I understand you're not here -- you're not offering any opinion. But in your opinion here, your report, there are many times where you talk about showing the plaintiffs' damages model can be consistent with their, quote, "theory of liability," end quote. And I was just wondering -- and since this opinion is based on your understanding as relayed to you by attorneys of what's required by Comcast, I was just wondering if you recall what Comcast generally had to do with about different theories of liability.
MR. LEVY: Same objection.
A. As I sit here, I can't articulate whether or not that was part of the Comcast decision.
Q. Fair enough. Are you familiar with the decisions in the Second Circuit, Roach v. T.L. Cannon Corp.? Does that ring a bell at all, interpreting Comcast?
A. I have not read that, no.
Q. Are you familiar with the case Waggoner v. Barclays by the Second Circuit that deals with in part the requirements under Comcast? Does that ring a bell at all?
A. No. I generally don't take it upon myself

to read legal opinions. Because I was asked -- because it was related to me that this was a standard, I've certainly read Comcast but don't offer this as a general interpretation of what Comcast actually requires.
Q. In Paragraph 38 of your report on Page 16 you state, "Dr. Nye claims that 'although damages, if any, for each individual Class member may vary, the method of calculating damages is common to the Class.'" Do you see that?
A. Yes.
Q. Do you take issue with that? Do you provide any opinion or criticize that claim?
MR. LEVY: Objection, vague.
A. So this is not evidence that damages can be calculated in a manner which is consistent with theory of liability and the alleged facts, for the following reason: that if I said that damages were $50 a share, well, that would be a method that was common to all class members but wouldn't be a damages methodology which was consistent with the theory of liability and the alleged facts of the case.
So just because a damages approach is common to all the class members doesn't mean that it

is -- it is sort of reasonably based on the principles of financial economics in a way that's consistent with plaintiffs' theory of liability and the alleged facts.

And so I would disagree that just because a method is common for all class members that it meets the standard of showing that damages can be calculated.

Q. Okay. I understand what you're saying there. But you don't take an issue with this statement. You're saying that it's not enough for something else, but you don't take issue with this particular statement. This statement isn't incorrect.

MR. LEVY: Objection.

A. So in order to have a damages model, this is necessary but not sufficient.

Q. And you agree that the damages model proposed by Dr. Nye or discussed by Dr. Nye in his report, that for each individual class member the method for calculating damages is common to the class?

A. Again, that would be a necessary but not sufficient condition to demonstrate that you can reasonably estimate damages on a classwide basis,

consistent with the plaintiffs' theory of liability and the alleged facts. That's the critical point that Dr. Nye ignores when he states this particular sentence.

Q. Paragraph 45, you state, quote, "From an economic perspective, it is necessary to develop and analyze a 'but-for world' in order to demonstrate that a constant dollar inflation band model is applicable to a specific theory of liability and set of facts," end quote. Do you see that?

A. Yes.

Q. Do you recall, are there other cases in which you've provided a report or testimony of some type in a securities case where you provided a similar opinion in that a but-for world and but-for disclosures need to be determined at the class certification stage?

A. I think you slightly misstated exactly what I'm saying here. So what you need to show is that the facts of the case and the theory of liability are such that the but-for world meets the particular criteria that I talk about in Paragraph 47, not that you need to articulate each and every but-for disclosure, because if you do that and estimate the price impact, you've actually generated the damages

model.

So I don't think that it's necessary to actually create the damages model itself. But as I talk about in the section here, there are specifics to -- when you tie the theory of liability, which you mentioned earlier, which was misstatements and omissions as required, to compliance with safety and recall requirements, as well as violations or the utilization of software to cheat on emissions testing.

What is necessary is to show that the facts as alleged by the plaintiffs are such that there's a damages approach that can deal with those issues -- not that you have to calculate it, but there are specifics here.

For example, the fact that on the recall front many of the recalls only start after the beginning of the class period. It's unreasonable to think that Fiat Chrysler at the beginning of the class period could have disclosed "We are going to see that we have issues that we need to do a recall 18 months from now." Similarly, there are issues related to regulatory action, and it would be impossible for Fiat Chrysler at the beginning of the class period to say, "On this particular date the

DOJ is going to file a civil action on behalf of the EPA" or that "NHTSA is going to have some action against us." The most they could do would be to talk about the possibility of those events.

So there are specifics to the facts of the case which need to be dealt with which would then say this is the method I would use given the way the facts line up -- not that you have to articulate what the but-for disclosures actually are.

Q. So you don't need to determine the information that should have been disclosed or when it should have been disclosed?

MR. LEVY: Objection, mischaracterizes prior testimony.

A. Well, certainly you need to know when allegedly misstated or omitted information was available to the company. Certainly you need to articulate what could have been revealed to correct the misinformation or the disclosure. And certainly you need to articulate a way that you can establish what the price movement in response to that corrective disclosure or that but-for disclosure would have been, but not that you have to say "On February 10th of 2010 the amount of inflation was

$1.27." You need to be able to articulate, given the nature of the way the facts here become known to Fiat Chrysler, what they would have said and how you would assess what the inflation was over time.

Q. But if you need to identify what they should have said and how the inflation would have changed over time, what left is there to do for the damages model? Don't you have everything you need to do the damages model then?

A. No, you need to assess the -- you need to actually ultimately run your model, assess how you're going to sort of estimate those damages over time.

So, for example, if there's confounding information, articulate a way that you're going to disaggregate how much of the price movement was due to revelations of information which is corrective, as opposed to everything else. And you don't have to do that calculation, but you need to articulate how you're going to disaggregate those pieces of information and that that information is available for you to disaggregate.

Q. So are you saying that you need to discuss how information can be disaggregated but you don't have to ascribe actual sort of numbers and

percentages to, "Oh, this information on this day was confounding by 50 percent or 60 percent," but you just need to say this is how you go about the method of taking out confounding information?

A. That's correct. So in this particular case I've identified a couple of days on which there's confounding information. As a matter of financial economics, in order to be able to ascribe damages, there needs to be a method articulated for, given that there are multiple pieces of information, how are you going to separate those two things out, and so what's the method that you're going to undertake to separate out those pieces of information? Because if you can't, and we know that there's multiple pieces of information on a day, you're not going to be able to reliably assess damages which are due to the misstatements and omissions of the company.

Q. So ultimately -- sticking with the confounding information, that ultimately will -- that process affects how much inflation existed on a given day of the class period?

MR. LEVY: Objection, assumes facts not in evidence.

A. Well, let's assume that there's a

corrective disclosure date with multiple pieces of information. A method that allows you to apportion the price decline among various pieces of information, some allegation-related and some not, would allow you to say what the inflation on that particular day was that is attributable to allegation-related disclosures.

There's another set of questions that you have to think about, which is, as we go back in time, what is the inflation over various periods of time back on particular dates, given the nature of that allegedly misstated or omitted information.

Q. In Paragraph 45, where you say, "It is necessary to develop and analyze a 'but-for world,'" what's your basis or support for your conclusion that this is necessary? I just don't see any citation to literature or anything like that. Is there a basis for this?

A. So it's the general proposition of what affects the valuation of a particular security, which is, as we've talked about earlier, tied to the expected future revenue and cash flow of the business and the riskiness of the business.

And so fundamentally the way to think about this is that we're tying the but-for world to

how that information on each date is going to affect investors' expectation for either the risk of the company or its future cash flow and -- its revenue and cash flow.

And so there are certainly circumstances under which the value attributable to a given piece of information may change as well as the information on a particular day may not be the same. And so what this says, back to the discussion we were having a second ago, is you need to understand what's known or knowable on a particular date, which would then be translated into the information which should have come to the market, the but-for disclosure, and to have a method to assess what the impact of that would be on the value of the company.

Q. And I understand what you're saying here. What I'm wondering is, when you say it's necessary, I'm wondering, you know, what's the basis of you saying this is something that absolutely has to be done. Is that something I can see in the literature? I just don't see any citations here to say this is how you have to conduct this analysis. Or is this your opinion, this is required under Comcast?

A. No, no, no.

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MR. LEVY: Objection.
A. It's what's required under sort of financial economics, to understand --
So the field of finance is about how information affects value, and information affects value only to the extent that it changes our expectation of systematic risk or the future cash flows of the business. It's not that you buy a share of Fiat Chrysler to put on the wall like a work of art. You buy it because you believe it's going to pay you cash flows into the future.
And therefore, if what you're trying to find out, which is there's this piece of information which I believe Fiat Chrysler should have told the market, the questions then revolve around, one, what was known that would affect the value of the company, and two, how does that translate into the value of the company, which then gives us the three requirements for, in one particular type of damages approach, a constant-dollar inflation, what would have to be true.
And so 45 then flows into Paragraph 47 from an understanding of that proposition of information and value.
Q. Right. I understand what you're saying. I

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may not necessarily agree with all of it, but I understand it.
What I'm wondering is: What's your -- is there any academic support that this is necessary, this formulation is the way to do it and you can't do it another way? I don't see any citations here saying, "Hey, this is how you have to conduct this analysis, and this is the only way to conduct it." And so what I am asking for is can you point to -- what would you point to to say, "This is support for my statement in Paragraph 45"?
MR. LEVY: Objection, asked and answered.
A. So there's no academic paper which has outlined the requirements of the constant-dollar inflation model. There have been discussions, and I highlight in the Cornell book on estimating damages the sets of issues which are important.
The requirements for a constant-dollar inflation model flow directly from the fundamental principles of finance about what affects the valuation of a company's shares or any securities. And so this is based on just those fundamental foundational principles of finance about what determines value.

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Q. And is there a citation or something that you have for these for the fundamental principles that show that this is absolutely necessary, that you're talking about here?
MR. LEVY: Same objection.
A. Any basic finance textbook which talks about the relationship between information and expectations will lead to this as a conclusion about what the requirements for a constant-dollar inflation model would be.
Q. Will it talk about a constant-dollar inflation model? Will it talk about creating a but-for world?
A. No. As I've sort of mentioned, it talks about the relationship between how do we assess the relationship between information and value.
Q. In Paragraph 46 you state, "For a proper economic but-for world, an economist needs to specify, among other things, the information that should have been disclosed and when such information should have been disclosed -- as defined by the plaintiffs -- rather than the alleged misrepresentations. These alternative disclosures are called 'but-for disclosures.'" I want to ask if you can point to any support in academics or

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otherwise for your conclusion here that this stuff needs to be specified, or is your answer similar to the answer in Paragraph 45?
MR. LEVY: Objection.
A. The answer will be exactly the same, that the framing of this is to understand how information affects value. And given the framework that there's information which was not provided to the market, what's necessary is to focus on what was that information and how does that information affect the value of the particular company in question.
Q. And in Paragraph 47, where you refer to the, quote, "three key assumptions," end quote, is there a citation for these -- support for these three assumptions that you identify that are necessary, or is your response similar to what you said about Paragraph 45 and 46?
A. The response will be similar, that what this does is it translates the basis from Paragraphs 45 and 46 about the way information affects value into what the particular requirements are if a model that asserts constant-dollar inflation over the class period is to be supportable.
And so in order for that -- in order for a constant-dollar inflation model to be supportable

based upon what finance says about how information affects expectations and value, these are three requirements that have to be true.

Q. So under 47(a), talking about the assumption, this assumption goes to -- and I know you talk about it in more detail later -- about when inflation would come into the stock price?

A. That's correct.

Q. And your criticism generally speaking -- I know it's not all in Paragraph 47 here -- of Dr. Nye is that because certain information wasn't alleged to have been known to the defendants until after the beginning of the class period, that means the inflation is going to vary over time from the beginning of the class period to the corrective disclosures.

MR. LEVY: Objection.

A. Yes, and let me extend that, because there's two elements to it -- some of which is that information which was allegedly misstated or omitted, that information -- some of that information only becomes known over time. At the beginning of the class period all that information was not known or knowable to Fiat Chrysler.

The second thing is that a number of the

corrective disclosure dates deal with regulatory actions against Fiat Chrysler, and those are realizations of risk. And stock price reactions to the realization of risk are not a measure of how a revelation about the probability of an event happening would impact the stock price.

So to be concrete, Fiat Chrysler could not have said, "On a particular date the DOJ is going to file a civil lawsuit on behalf of the EPA against us." The most they could have said is that "There's some possibility in the future that the DOJ or some regulator is going to take action against us, and there's some probability that will occur." The realization of that probability is not a measure of the possibility of that happening would have affected the stock price.

Q. And the distinction between what comes out in a corrective disclosure and what would have been in what you referred to as the but-for disclosure, the difference in that is going to affect the amount of inflation on a given day?

A. So it will affect both the inflation on a given day as well as the ability to utilize the stock price reaction on the revelation of the realization of that risk as a measure of what the

stock price would have been -- what would have happened to the stock price in response to a revelation that the risk existed.

Q. Now, is that part of 47(b) there or is that part of 47(a)? I understood that to be part of 47(a), but I want to make sure we're on the same page.

A. As part of 47(a) -- 47(a) is what reasonably could they have said about potential regulatory action? When should they have known that regulatory action was a possibility?

There is then the issue about how you would go about measuring whether or not the price reaction to a corrective disclosure represents the price reaction to the revelation of that particular information, which is Paragraph (b).

So (a) is what you could have revealed, and within Paragraph (b) is understanding the price reaction to that information and whether that would be the same as the price reaction to the corrective disclosure.

Q. And then in Subpoint (c), moving on to Page 20, you're stating here that because information can have a different significance given the environment over time, that you need to analyze that -- the

difference between when misrepresentations are made and corrective disclosures are made because that, too, can affect the amount of inflation in the stock price on a given day?

MR. LEVY: Objection.

A. That was really close. So the issue is that the valuation impact of a given piece of information could be different depending upon both industry and macro factors, and I can be pretty concrete here. Which is like saying that you're a gold company and you have discussions about your production. The impact of information about production will be higher the higher the price of gold.

So the price of gold can affect the value of information for a gold company. And so that's what I mean by macroeconomic or industry factors can affect the value of a specific piece of information, which may be the same, but impacts value differently depending upon that.

Q. And then ultimately that's going to have an effect on the amount of inflation in a given day.

A. That's correct.

Q. In Paragraph 48 you talk about confounding information. And here are you saying that because

there may exist confounding information unrelated to the fraud that was not disaggregated from, I guess, the residual return, that that can impact the amount of inflation on a given day?

MR. LEVY: Objection.

A. What Paragraph 48 says is something that we had talked about a little while ago, which was if what you're doing is to try and identify the value of a corrective disclosure that's specifically attributable to the information which was either misstated or omitted, if the corrective disclosure date has confounding information unrelated to the fraud, what you need to be able to do is to show that you can have a method which disaggregates how much is due to the fraud-related information and how much is due to confounding information, and as such, be able to ascribe what the value impact on the corrective disclosure date was of the fraud.

Q. And this also would affect the amount of inflation on a given day?

A. It would affect the amount of inflation on the corrective disclosure date, yes.

Q. Now, in Paragraph 47 and 48, which we were just discussing, about the three assumptions and also confounding information, I mean, generally

speaking, does all of this go towards just like disaggregating the fraud -- let me start over.

In Paragraphs 47 and 48, when we're talking about these assumptions and the confounding information, do all of these points basically go to disaggregating damages that resulted from the alleged fraud from, I guess, residual stock price movements from -- as a result of other factors, and the fact that that's going to impact the inflation during the class period?

A. So 48 goes specifically to that. 47 is a little different. 47 says how do we take and determine what the inflation was going back prior into the class period? 48 is about the corrective disclosure date. 47 is about understanding how do we get inflation on earlier days of the class period? How can we assess how far back that inflation goes and how big it is?

We've already talked about 47(a) is about you can't disclose something that you didn't know at the time and wasn't knowable. 47(b) is whether or not what was disclosed at the corrective disclosure is what could have been disclosed earlier in the class period, and the example you just talked about earlier, we just talked about earlier, was

revelation of a risk of an event versus the actual event occurring. And then (c), which is slightly different, is, if that information came to the market earlier, would the price impact be the same as it was on the corrective disclosure?

Q. Now, are you saying in Paragraph, I guess, 47 and 48 -- and I know you get into the details later in your report -- but in your report are you saying that doing the analysis that you talk about here in Paragraph 47 and 48 and that you discuss later on, that it's impossible to do this analysis or just that your criticism is that Nye has not done it in his report?

A. So what I'm saying here is that you have to wrestle with the case-specific facts and the theory of liability here. I find some difficulties here that I'm not sure how you would deal with it. I'm not saying for sure it's impossible because I haven't been asked to do it. But there are some nontrivial issues that require at least some exposition about how you would deal with them given the specifics of the case, and Dr. Nye hasn't even wrestled with the theory of the case or the facts to try and assess how he would deal with them.

And so that's really what I'm saying,

that there's no evidence that Dr. Nye has presented "Here's how I would approach these things, and here's how I would deal with the particular issues that stem from the information that was allegedly misstated or omitted and when it occurred over time, as well as the confounding information."

And so those are the critical elements -- not that I'm saying that it's for sure impossible, but I see difficulties for sure.

Q. In your report, just for example, and I'm just picking a paragraph, but Paragraph 50, since we're on this page, in the bottom, the last phrase, you refer to throughout your report "Plaintiffs' theory of liability and the facts in this case." Do you see that?

A. Yes, it's the last sentence in Paragraph 50.

Q. And you recall you use that phrase throughout your report? Do you recall that?

A. Correct.

Q. Is there, in your mind, in using this phrase, is there a distinction between plaintiffs' theory of liability, on the one hand, and the facts in this case?

A. The facts of the case go to inform the

theory of liability. So again, it's my understanding the theory of liability here is that there are misstatement/omissions about two key areas that Fiat Chrysler perpetrated: one related to the safety recalls, in which Fiat Chrysler didn't inform the regulators in a timely way, misestimated the cost of the recalls, didn't undertake the recalls in a proper way. So there's the recall-related set of issues.

And then on the emissions side there's allegations that Fiat Chrysler perpetrated fraud by having a software system that allowed it to cheat regulators -- I think it's what the plaintiffs call a defeat device -- and essentially get around emissions regulations.

And so given that, the facts of the case are different. So the facts as alleged by the plaintiffs would entail what specific recalls are at issue, when does plaintiff allege that Fiat Chrysler knew or should have known about these particular recalls; related to emissions, when did Fiat Chrysler know that it was allegedly using the software -- and a whole set of issues that the facts of the case inform the information that Fiat Chrysler could have revealed related to the fraud.

MR. WERNKE: Let's take a short break. I think we're getting near the end.

THE VIDEOGRAPHER: The time is 3:33. We're off the record.

(Recess taken.)

THE VIDEOGRAPHER: The time is 3:45. We are back on the record.

Q. Generally speaking, it's your understanding here that Dr. Nye did an event -- not an event study, but he did his analysis for the purposes of determining whether or not the market for Fiat Chrysler stock was efficient. Correct?

MR. LEVY: Objection.

Q. That was the purpose of his study?

MR. LEVY: Objection, foundation.

A. I understand that he was submitting his report as a basis for class certification, and one of the requirements for class certification, in order for you to invoke -- again, my understanding is that in order for you to invoke the presumption of reliance, you need to show that the market for that security was efficient.

Q. And I don't want to get into details here. But generally speaking, you have an understanding of the analysis that Dr. Nye did to come to his

conclusions?

A. I do.

Q. The regression and everything that goes with that. Correct?

A. I do.

Q. Is that -- is what he did, the analysis that he did, his analysis, is that an appropriate analysis to use to determine whether there has been no price impact on the stock from particular disclosures?

MR. LEVY: Objection.

A. One set of analyses one might do in terms of looking at price impact might be to look at an event study. How one would approach it here I don't know, because I wasn't asked to do an affirmative price impact analysis.

So an event study may be helpful in examining price impact, but there may be other methods that one would look at to assess price impact, and which ones one would affirmatively use here I don't know. I wasn't asked, so I didn't do it.

Q. Is there anything, looking at Dr. Nye's analysis here, that makes you think that by itself, as it is, it's sufficient for evaluating whether or

not there's price impact?

MR. LEVY: Objection.

A. I don't know. I'd have to look at it in the context of understanding whether or not he did enough to show price impact. As I said, I have no opinion one way or the other on price impact. I just haven't looked at it. But certainly an event study can be helpful in terms of determining price impact.

Q. Is the analysis one would do to determine market efficiency the same analysis as one would do to determine whether or not there's price impact?

A. So when you do an event study for market efficiency, the question you're asking is whether or not the market is rapidly and fully incorporating new value-relative information. So it's examining price reaction to information and making sure those price reactions are appropriate given the information.

Now, when you use a price -- when you do an analysis of price impact, you can use the same -- if you're doing an event study, you can use the same regression model, but you then have to assume that the market's efficient, because then what you're looking at is the price movements, and the

assumption would be that the price movements appropriately reflect the information which is coming to the market.
So you can have -- event studies can be helpful in determining market efficiency when you look at the information and see is it being appropriately incorporated into the stock price -- or, if you assume market efficiency, you can say, okay, is this piece of information causing stock price movements assuming market efficiency?
Q. But the analysis for determining whether or not there's price impact would go beyond the information that's simply in Dr. Nye's market efficiency analysis. Would you need more information than what's in his analysis?
A. It's -- again, it's possible. I've done other price impacts and looked at a variety of sets of information. I wasn't asked to do it here, so I don't know what additional information, if any, I might look at if I were to do a price impact analysis. I just haven't done it here.
Q. Does doing a price impact analysis require any kind of expertise?
MR. LEVY: Objection.
A. Well, certainly it would require one to be

an expert in financial economics and understanding how one can interpret a variety of both price movements or information which might affect value and to assess what pieces of information may be moving the value of a given company and whether or not the information which is alleged to have been omitted or misstated is what caused the price of the company to actually move.
So finance is fundamentally focused on an assessment of value and how information may affect value. And so price impact certainly requires that knowledge.
(Exhibit 4 marked for identification.)
Q. You're being handed what has been marked as Exhibit 4. It's titled Supplemental Expert Report of Zachary Nye, dated December 21st, 2017. Do you recognize this?
A. Yes.
Q. And what is this?
A. This is the report that he issued in this matter as it would relate to issues he thought were relevant to class certification, and in particular an analysis of market efficiency.
Q. And this is excerpted. I didn't include all of his exhibits. I did include Exhibit 15 in

the back, which I'd like you to turn to now.
MR. LEVY: Object to the extent this is excerpted.
Q. In Exhibit 15 you see on the event date going down four rows to July 26, 2015, where the event states, "NHTSA fined FCA $105 million for violations in 23 recalls." Do you see that?
A. Yes.
Q. And the impact date is July 27th, 2015?
A. Yes.
Q. And the confidence level of that is 92.12 percent?
A. That is correct.
Q. And you're not providing any opinion on whether or not this demonstrates price impact, are you?
A. I don't have a price impact opinion, so I have no opinion one way or the other.
Q. And similarly, moving down a couple of rows, on October 28, 2015, referring to the Q3 2015 earnings release, and you see that it has a confidence level there of 99.75 percent?
A. Yes.
Q. Is that sufficient to show price impact, that information?

A. Again, I haven't done a price impact analysis, so I have no opinion one way or the other.
Q. And if I went through the other alleged corrective disclosures that he analyzes in his chart, am I correct that your response would be the same, that you're not providing an opinion, so you don't have an opinion one way or the other?
A. That's correct.
MR. WERNKE: No further questions.
MR. LEVY: Nothing further.
THE VIDEOGRAPHER: The time is 3:54. This concludes the deposition. We are off the record.
(The deposition concluded at 3:54 p.m.)